

Listing of Claims

1. (Canceled)
2. (Previously Presented) The video display appliance of claim 26, wherein the sub-picture OSD adjustment menu comprises:
 - a function control display area including a plurality of functions subject to adjustment by manipulation of the OSD adjustment menu; and
 - an adjustment display section including a meter that indicates an amount of adjustment in a selected sub-picture function.
3. (Previously Presented) The video display appliance of claim 2, wherein the plurality of sub-picture functions includes at least one of a sub-picture horizontal size, a sub-picture vertical size, a sub-picture horizontal position, a sub-picture vertical position, a sub-picture brightness, a sub-picture contrast, or a thickness of a border line of the sub-picture.
4. (Previously Presented) The video display appliance of claim 26, wherein the sub-picture OSD adjustment menu is superimposed on the sub-picture.
5. (Canceled)
6. (Previously Presented) The video display appliance of claim 2, wherein the adjustment display section displays an amount of adjustment for a selected sub-picture function as a variable histogram, a moving bar, or arrows.

7. (Previously Presented) The video display appliance of claim 6, wherein a variable histogram displayed in the adjustment display section is varied in a horizontal direction or in a vertical direction, starting from a predetermined position of a reference region of the variable histogram.

8. (Previously Presented) The video display appliance of claim 6, wherein a moving bar displayed in the adjustment display section is varied in a horizontal direction or in a vertical direction, starting from a center line of a reference region of the moving bar.

9. (Previously Presented) The video display appliance of claim 2, wherein the adjustment display section of the sub-picture OSD adjustment menu indicates an amount of adjustment in a vertical direction or in a horizontal direction in accordance with a sub-picture function selected by a user.

10. (Previously Presented) The video display appliance of claim 2, wherein an adjustment direction displayed in the adjustment display section coincides with an actual adjustment direction of the sub-picture.

11. (Currently Amended) A method of adjusting a sub-picture using an on-screen display (OSD) for a video display unit, the method comprising:

determining whether a sub-picture adjustment mode is selected by a user;

superimposing a sub-picture OSD adjustment menu at a first location on a main picture region in response to a first selection within the sub-picture adjustment mode, or at a

Reply to Final Office Action of Feb. 6, 2009

second location on a sub-picture region in response to a second selection within the sub-picture adjustment mode, wherein the first location or the second location is set by the user;

displaying an adjustment display section in the sub-picture OSD adjustment menu if one of a plurality of sub-picture functions subject to adjustment through the sub-picture OSD adjustment menu is selected by the user;

detecting a user manipulation of a vertical adjustment button or a horizontal adjustment button of a key input unit, and varying a level of the selected sub-picture function displayed in the adjustment display section in response to the detected user manipulation; and

adjusting an appearance of a sub-picture displayed in the sub-picture region based on the variation of the selected sub-picture function as the user manipulates the key input.

12. (Previously Presented) The method of claim 11, wherein a manipulation direction of the vertical and horizontal adjustment buttons of the key input unit, and a level-changing direction displayed in the adjustment display section, correspond to an actual change direction of the sub-picture.

13. (Previously Presented) The method of claim 11, wherein the plurality of sub-picture functions subject to adjustment include at least one of a sub-picture horizontal size, a sub-picture vertical size, a sub-picture horizontal position, a sub-picture vertical position, a sub-picture brightness, a sub-picture contrast, or a thickness of a border line of the sub-picture.

14. (Previously Presented) The method of claim 11, wherein the adjustment display section displays a changing amount of a selected sub-picture function using a level meter, arrows or a numeral.

15. (Previously Presented) The method of claim 14, wherein a level meter displayed in the adjustment display section includes a variable histogram or a moving bar, oriented in a horizontal or a vertical direction.

16. (Previously Presented) The video display appliance of claim 26, wherein the vertical and horizontal adjustment buttons of the key input unit can be used to adjust a size and position of the sub-picture.

17. (Previously Presented) The video display appliance of claim 26, wherein the second sub-picture signal includes a luminance signal and a chrominance signal for the sub-picture outputted from the sub-picture signal processing unit and stored in the memory unit.

18. (Currently Amended) A video display appliance, comprising:
a display screen;
a processor that generates a display signal which is output to the display screen, wherein the display signal causes the display screen to show a main picture and a sub-picture that is superimposed on the main picture;
a key input unit coupled to the processor, wherein a user can manipulate buttons on the key input unit to instruct the processor to take certain actions; and

an on-screen display (OSD) generator, coupled to the processor, which causes the processor to generate an OSD menu that is superimposed at a first location on the main picture based on a first input received from the key input unit, or at a second location on the sub-picture based on a second input received from the key input unit, wherein the first location or the second location is set by the user, and wherein the user can manipulate the buttons on the key input unit to select options on the OSD menu, which is used to change characteristics of the sub-picture, wherein the OSD generator displays an amount of change in a selected characteristic of the sub-picture as the user manipulates the key input unit.

19. (Canceled)

20. (Previously Presented) The video display appliance of claim 18, wherein the OSD menu can be used to adjust a size, a position, a brightness or contrast of the sub-picture.

21. (Previously Presented) The video display appliance of claim 18, wherein the OSD menu includes a graphical display icon that indicates a current setting of a characteristic of the sub-picture.

22. (Currently Amended) A method of adjusting a sub-picture of a display, the method comprising:

displaying an on-screen display (OSD) menu at a first location on a main picture displayed on the display in response to a first input, or at a second location on a sub-picture superimposed on the main picture in response to a second input, wherein the first location or the second location is set by the user;

receiving key input from a user for the OSD menu, wherein the key input indicates that the user wishes to alter one of a plurality of characteristics of the sub-picture superimposed on the main picture;

displaying an amount of adjustment of a selected characteristic of the sub-picture with the OSD menu as the user generates the key input; and

altering the selected characteristic of the sub-picture based on the received key input.

23. (Previously Presented) The method of claim 22, wherein the receiving step comprises receiving key input that indicates that the user wishes to alter a size or location of the sub-picture.

24. (Previously Presented) The method of claim 22, wherein the receiving step comprises receiving key input that indicates that the user wishes to alter a brightness or contrast of the sub-picture.

25. (Previously Presented) The method of claim 22, wherein the OSD menu includes a graphical display that indicates a current setting for a characteristic of the sub-picture.

26. (Currently Amended) A video display appliance having a picture-in-picture (PIP) mode, the video display appliance comprising:

a key input unit ~~that receives an input signal based on a selected menu key to~~
receive a key input signal, the key input unit including one or more menu selection keys and
vertical and horizontal adjustment buttons for picture size and position control;

Reply to Final Office Action of Feb. 6, 2009

a main-picture signal processing unit that receives and processes a main-picture signal from an external source;

a sub-picture signal processing unit that receives and processes a first sub-picture signal from an external source;

a PIP processing unit that receives the main-picture signal from the main-picture signal processing unit, the first sub-picture signal from the sub-picture processing unit and a second sub-picture signal from a memory unit, wherein the PIP processing unit superimposes the first and second sub-picture signals on the main-picture signal and outputs a corresponding composite signal;

an on-screen display (OSD) output unit that superimposes an OSD menu on the signal output by the PIP processing unit; and

a microcontroller that controls operation of constituent elements of the display appliance to display, on a display unit, a sub-picture superimposed on the main picture and a sub-picture OSD adjustment menu superimposed at a first location on a corresponding portion of the main-picture in response to a first input, or at a second location on the sub-picture in response to a second input, wherein the first location or the second location is set by a user, and wherein the microcontroller adjusts an appearance of the sub-picture based on a detected user manipulation of the sub-picture OSD adjustment menu received from the key input unit and a corresponding selected sub-picture function, and displays an amount of adjustment of the selected sub-picture function in the OSD sub-picture adjustment menu as the user manipulates the key input unit.

27. (Previously Presented) The video display appliance of claim 26, wherein a size of the sub-picture is less than a size of the main picture.

28. (Previously Presented) The video display appliance of claim 21, wherein the graphical display icon displays an amount of change in a characteristic of the sub-picture selected from the OSD menu using a level meter, arrows, or a numeral that is manipulated by the user using the key input unit.

29. (Previously Presented) The method of claim 11, wherein adjusting an appearance of the sub-picture comprises adjusting the appearance of the sub-picture independent from an appearance of the main picture.

30. (Previously Presented) The video display appliance of claim 18, wherein the OSD menu can be used to change characteristics of the sub-picture independent of the main picture.

31. (Previously Presented) The video display appliance of claim 26, wherein the microcontroller adjusts the appearance of the sub-picture independent from an appearance of the main picture.